No. 8900122

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

AgriPro Biosciences Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Sierra'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 31st *day of* March *in the year of our Lord one thousand nine hundred and* ninety-three.

Attest:

Kenneth B. Evans

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S)
~~Agripro Biosciences Inc.~~ HybriTech US, a Monsanto Company

2. TEMPORARY DESIGNATION
W84-229 CGM 01 Jun 1998

3. VARIETY NAME
SIERRA

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
6700 Antioch
Shawnee Mission, Kansas 66204

5. PHONE *(Include area code)*
913-384-4940 (KS)
303-532-3721 (CO)

FOR OFFICIAL USE ONLY

PVPO NUMBER
8900122

6. GENUS AND SPECIES NAME
Triticum aestivum

7. FAMILY NAME *(Botanical)*
Gramineae

FILING
DATE: Mar. 20, 1989
TIME: ☐ A.M. ☐ P.M.

8. KIND NAME
Hard Red Winter Wheat

9. DATE OF DETERMINATION
~~1) 1984~~ July 1986
~~2) 1987~~ ~~1 Feb 1993~~ per letter

FEES RECEIVED
AMOUNT FOR FILING: $ 1800.00
DATE: Mar. 20 1989
AMOUNT FOR CERTIFICATE: $ 200.00
DATE: March 10, 1993

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
February 8, 1989

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

~~R.E. Heiner~~
~~6700 Antioch~~
~~Shawnee Mission, KS 66204~~
~~913-384-4940~~

Mark J. Messmer
HybriTech US
5912 North Meridian
Wichita KS 67204
PHONE *(Include area code)* 316 755 7707
Fax: 316 755 0072
e.mail: Mark.J.Messmer@Monsanto.Com

~~C. Bruns or R. Bruns~~
~~P.O. Box 30~~
~~Berthoud, CO 80513~~
~~303-532-3721~~

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. ☒ Exhibit B, Novelty Statement. cgm 01 Jun 1998
c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership. Exhibit F. Quality & Agronomic Data

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
☒ Yes *(If "Yes," answer items 16 and 17 below)* ☐ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ Foundation ☒ Registered ☒ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES ?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
RE Heiner
DATE: 3-14-89

SIGNATURE OF APPLICANT
DATE

FORM WA-470 (7-84) (Edition of 3-84 is obsolete.)

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EXHIBIT A.

ORIGIN AND BREEDING HISTORY OF SIERRA

Sierra originated from the cross W79-227/Payne made in 1981. Sierra was observed regionally as an F4 plant row in 1983. Sierra was tested in preliminary yield trials in 1984 and designated experimental number W84-229. Sierra has been tested in AgriPro replicated trials representing a fairly broad area of the Hard Red Winter Wheat region from 1985 thru 1987. Sierra was entered in selected official 1989 university trials and the Southern Regional Preformance Nursery in 1990.

In 1986, 96 head-rows were grown in Berthoud, Colorado. Eighty of these initial head-rows were selected for uniform morphological characteristics, including height and maturity, to form a two acre increase in 1987, which produced 7,000 pounds of breeder seed. In 1988, 92 acres of Foundation seed was produced in Colorado. In the fall of 1989 registered production was grown throughout the Hard Red Winter Wheat region.

Sierra has been uniform and stable for the past three generations. Less than 0.5% of the plants were rogued from the foundation field in 1988. The majority of the rogued variant plants consisted of approximately 90% taller (three to ten centimeters) wheat plants. Up to 1% total variant plants may be encountered in subsequent generations.

EXHIBIT B.

NOVELTY STATEMENT

Sierra is most similar to the hard red winter wheat Thunderbird. However, it can be easily distinquished by the following morphological characteristics:

- Sierra has a long acuminate beak. Thunderbird has an acute beak type.

- Sierra is significantly shorter in plant height than Thunderbird (see Exhibit F. page 3, Rankings for Height, Maturity and Straw Strength).

'Sierra'

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Agripro Biosciences Inc.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
6700 Antioch
Shawnee Mission, Kansas 66204

FOR OFFICIAL USE ONLY
PVPO NUMBER 8900122
VARIETY NAME OR TEMPORARY DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER *(Specify)* _____ [2] 1 = SOFT 2 = HARD 3 = OTHER *(Specify)* _____

[2] 1 = WHITE 2 = RED 3 = OTHER *(Specify)* _____

3. SEASON - NUMBER OF DAYS FROM planting TO:
[2][3][1] FIRST FLOWERING [2][3][7] LAST FLOWERING

4. MATURITY *(50% Flowering)*:
[0][2] NO. OF DAYS *EARLIER* THAN ..... [2] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT *(From soil level to top of head)*:
[0][8][6] CM. HIGH
[---][---] CM. TALLER THAN ..... [--]
[1][0] CM. SHORTER THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7) Thunderbird

6. PLANT COLOR AT BOOTING *(See reverse)*:
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][5] NO. OF NODES *(Originating from node above ground)*
[2][4] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[2] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER *(Specify)*: _____
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][3] MM. LEAF WIDTH *(First leaf below flag leaf)*
[2][0] CM. LEAF LENGTH *(First leaf below flag leaf)*: 4

FORM LPGS-470-6 (7-81) (Edition of 3-79 may be used)

'Sierra' 8900122

FORM GR-470-6 (REVERSE)

11. HEAD:

[3] Density: 1 = LAX 2 = DENSE 3=middense

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[6.8] CM. LENGTH [10] MM. WIDTH

12. GLUMES AT MATURITY:

[1-2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[3-4] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[2] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1-3] Shape: ovate to elliptical 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2=midlong 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[---] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[6.2] MM. LENGTH [3.4] MM. WIDTH [38] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3=Moderately Susceptible 4=Moderately Resistant

[4] STEM RUST (Races) field [4] LEAF RUST (Races) field [0] STRIPE RUST (Races) _____ [0] LOOSE SMUT

[3] POWDERY MILDEW [0] BUNT [0] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3=Moderately Susceptible 4=Moderately Resistant

[0] SAWFLY [0] APHID (Bydv.) [0] GREEN BUG [0] CEREAL LEAF BEETLE

[0] OTHER (Specify) _____

HESSIAN FLY RACES: [4] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Thunderbird	Seed size	Thunderbird
Leaf size	Thunderbird	Seed shape	Thunderbird
Leaf color	Thunderbird	Coleoptile elongation	Thunderbird
Leaf carriage	Thunderbird	Seedling pigmentation	Thunderbird

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form. 5

(a) L.T. Briggle and L. P. Reitz. 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States. Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

EXHIBIT D.

ADDITIONAL BOTANICAL DESCRIPTION FOR SIERRA

Sierra is a hard red winter wheat bred and developed by Agripro Biosciences Inc. Sierra is an intermediate height semidwarf with medium maturity and excellent straw strength. Milling and baking properties are acceptable.

Juvenile plant growth habit is semi-erect to erect. Plant color is green at boot with an erect, twisted flag leaf. Auricle anthocyanin and hairs are present. Waxey bloom is present on the flag leaf sheath and stem. Head shape is tapering, middense, awned and white at maturity. Glumes are short to midlong in length and of medium width with rounded to square shoulders and long acuminate beaks. Seed shape is ovate to elliptical with rounded cheeks and midlong brush hairs.

Sierra is broadly adapted to a large portion of the HRWW region. It appears to be best adapted to Kansas, southern Nebraska, eastern Colorado, and the Oklahoma and Texas panhandle-irrigated areas.

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EXHIBIT E.

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Agripro Biosciences Inc. is the applicant for protection in this case being:

a) The incorporated business (registered in Delaware) for and within which regular employees have bred the named variety.

b) The proprietory owner and intending commercial user of the variety.

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EXHIBIT F.

QUALITY AND AGRONOMIC DATA

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AGRIPRO WHEAT
HARD RED WINTER WHEAT

YEAR: 1988

YEAR	VARIETY OR LINE	LOC	FLOUR/WHEAT QUALITY WHT PROT	FLR PROT	HRD	FLR YLD	ASH	TOL	BAKING QUALITY ABS	MIX TIME	LOAF VOL	CRUMB GR	CRUMB TX	CRUMB COL
			14%mb	14%mb		%		R	%	min	cc	R	R	R
88	SIERRA	SK	14.8	13.6	67	60.1	.484	4	62.0	2.50	1060	3	3	3
88	SIERRA	SK	14.7	13.7	73	58.3	.415	6	63.0	2.50	900	5	5	4
88	SIERRA	NO	13.4	12.2	58	63.6	.450	8	64.0	2.50	1050	4	3	3
88	SIERRA	NO	13.8	12.1	58	62.7	.406	7	63.0	2.50	1030	5	3	3
87	SIERRA	WK	12.6	11.3	62	67.5	.420	6	64.0	2.50	1060	3	3	3
87	SIERRA	GI	13.5	11.6	62	66.6	.000	4	62.0	2.25	1200	6	3	3
86	SIERRA	NO	13.7	12.2	--	66.4	.456	3	64.0	2.75	1000	3	2	2
86	SIERRA	WK	12.2	10.8	--	68.3	.434	4	65.0	2.50	950	3	1	2
86	SIERRA	GI	11.9	10.1	--	68.3	.408	3	64.0	2.00	870	2	1	2
85	SIERRA	TI	11.7	10.9	--	68.2	.000	4	65.0	1.75	840	4	2	2
85	SIERRA	SK	12.8	11.3	--	68.3	.000	4	63.0	2.25	900	3	3	3
85	SIERRA	GK	13.9	12.6	--	69.0	.000	3	65.0	2.25	890	3	2	2
85	SIERRA	BB	12.9	11.2	--	69.1	.000	3	65.0	2.25	880	2	1	2
84	SIERRA	SD	13.4	11.9	--	73.0	.000	3	64.0	2.75	1025	2	2	2
	AVERAGE		13.2	11.8	63	66.2	.434	6	63.9	2.41	1050	3.4	2.4	2.6
88	HAWK	SK	15.1	14.3	63	61.8	.508	2	62.0	5.00	1180	3	3	3
88	HAWK	SK	14.0	13.1	70	62.9	.439	3	61.0	4.50	910	4	4	3
88	HAWK	NO	12.7	11.4	60	66.4	.436	1	61.0	4.25	1040	3	4	3
88	HAWK	NO	13.1	12.0	61	64.8	.456	2	62.0	4.75	1050	3	2	2
87	HAWK	WK	11.9	10.4	54	67.4	.442	5	62.0	3.50	890	3	3	3
87	HAWK	GI	14.3	13.2	62	65.3	.000	3	63.0	3.75	1030	4	3	3
86	HAWK	NO	12.2	10.7	--	67.9	.505	3	62.0	4.75	940	2	3	2
86	HAWK	WK	11.5	9.9	--	64.3	.443	5	63.0	4.75	870	3	3	2
86	HAWK	GI	11.3	9.8	--	70.4	.442	2	64.0	3.50	840	3	3	2
85	HAWK	TI	10.1	9.0	--	65.6	.000	6	61.0	3.00	790	5	4	4
85	HAWK	SK	12.8	12.1	--	69.4	.000	2	64.0	2.75	870	4	3	3
85	HAWK	GK	13.7	11.7	--	68.1	.409	5	61.0	5.00	890	2	3	2
85	HAWK	BB	13.0	12.1	--	70.4	.430	2	65.0	3.00	890	2	2	2
84	HAWK	SD	13.0	11.9	--	73.0	.000	4	60.0	5.00	1000	3	3	2
	AVERAGE		12.8	11.4	62	67.0	.451	3	62.2	4.12	942	3.1	3.0	2.6

R=RATINGS 1-2=EXCELLENT 3-4=GOOD 5=ACCEPTABLE 5-6=QUESTIONABLE 8-9=UNACCEPTABLE

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AGRIPRO SEEDS
HARD RED WINTER WHEAT TRIAL SUMMARY
OVER LOCATIONS-OVER YEARS

YEARS: 85, 87, 88
VARIETIES: SIERRA vs. TAM 105

	LOCS	YIELD Bu/Ac		LOCS	T.WT. lb/Bu	
STATES		SIERRA	TAM 105		SIERRA	TAM 105
CO	4	110.0	107.4	4	60.3	59.6
KS	12	47.4	42.9	12	56.7	54.8
NE	2	63.5	58.9	2	57.2	56.3
OK	2	58.2	48.6	2	58.9	58.2
TX	5	65.4	63.3	5	58.5	57.2
ALL	25	63.2	59.0	25	57.9	56.4

YEARS: 86, 87, 88
VARIETIES: SIERRA vs. ARKAN

	LOCS	YIELD Bu/Ac		LOCS	T.WT. lb/Bu	
STATES:		SIERRA	ARKAN		SIERRA	ARKAN
CO	4	103.2	94.6	4	60.8	50.9
KS	11	59.1	56.3	11	58.2	57.4
MO	1	51.0	60.8	0	0.0	0.0
NE	5	71.9	69.3	5	56.3	57.1
OK	4	47.8	46.8	4	57.6	57.2
TX	2	66.8	62.6	2	56.6	55.6
ALL	27	66.6	63.6	26	58.0	56.2

This data represents all data available in HRWW region from public and private trials, dating back to 1985. These trials include irrigation, continuous, and summer fallow.

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RELATIVE RANKINGS OF SIERRA AND FOUR OTHER HRWW VARIETIES
HEIGHT, MATURITY AND STRAW STRENGTH - 1988 SUMMARY

VARIETY	HEIGHT	MATURITY	STRAW STRENGTH
Sierra	3	5	2
Thunderbird	5	5	3
Siouxland	6	5	6
Arkan	4	3	5
Mesa	2	2	2

These rankings are based upon a scale of 1 thru 9, where 1 is very short or very early or very stiff-strawed, and 9 is very tall, very late and very weak strawed.

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